

ABSTRACT

The objective and aimed of this study is to determine the optimal formulation in margarine produced from soybean oil, white butter and glycerin as a raw material and lecithin, tween 80, skim milk and water as supporting material and to determine the result of chemical properties from margarine soy oil.

The study consisted of two stages. The first stage was preliminary to determine the fixed and variable independent variables to be used. The second phase is the primary research stage to determine the best formulation of margarine using Response Surface Methodology Central Composite Design methods aimed at optimization of margarine products in accordance with the existing margarine. Response in this study is the chemical response that is moisture and fat content and organoleptic response is description test.

Formulation optimal margarine based on the 13 formulations offered the value of precision that indicates the value of 1 is soy oil 50.584%, white butter 31.606%, and glycerin 3.902% of the overall amount to 86.092% and the rest is fixed variables that lecithin 5%, skim milk 1, 5%, 0.5% tween 80, and 6.908% water. The formulation is predicted by the program with a response moisture content 8.853% and 82.690% fat content. Based on the description of the product test margarine, soybean oil margarine samples with sample code 474 has the lowest value compared with the margarine samples are already in the market such as palmia (363), filma (634) and forvita (743).

Keywords: Margarine, Soybean Oil, White Butter, Glycerin, Response Surface Methodology.